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ABSTRACT

Data on 169 beginning teachers' salaries were used to track changes in relative salaries in Oregon public schools and colleges over a 12-year period and to determine the financial consequences of starting teaching careers at different educational levels. Salaries of 70 elementary and secondary teachers, 62 community college teachers, and 37 state higher education system teachers--all with 3 years or less of teaching experience at the beginning of the period--were followed from 1971 through 1982. Data were collected on median salaries in current and constant (1971) dollars, the consumer price index and educational training. The sample was controlled to match teachers in equivalent disciplines at the different levels. Presented in four tables and four graphs, the findings show, among other things, that Oregon elementary and secondary teachers began (and stayed) at lower salaries than did those in the other two educational levels and that community college teachers began at lower salaries than higher education teachers but now make more. Four appendixes list the academic disciplines covered, the sample sizes in the schools and counties covered, and further data on median teacher salaries. (RW)

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Teacher Salaries in Oregon: A Longitudinal Study of Salaries of Teachers in Oregon Public Schools, Community Colleges, and the State System of Higher Education from 1971/72 through 1981/82

by
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February 1983

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Table of Contents

	Page
Introduction	1
Methodology	1
Characteristics of the Sample Related To Salary	4
Table 1: Experience of Teachers Beginning in 1971/72	5
Table 2: Educational Preparation of Teachers	6
Research Findings	7
Figure 1: Median Salaries of Oregon Teachers by Sector 1971/72 to 1981/82.	8
Figure 2: Median Salaries for Oregon Teachers by Sector 1971/72 to 1981/82 in Constant 1971 Dollars	10
Table 3: Changes in Median Salaries for Oregon Teachers by Sector 1971/72 to 1981/82 in Constant 1971 Dollars.	11
Figure 3: Difference Between Annual Percentage Increase of the Median Salary and the Consumer Price Index	12
Figure 4: Percentage Increase of Median Salaries of Oregon Teachers and the Consumer Price Index from 1971/72 to 1981/82.	14
Table 4: Salary Change for Individual Teachers by Sector Compared to the Consumer Price Index 1971/72 through 1981/82	15
Summary	16
Appendix A: Disciplines Considered and Not Considered in the Study	18
Appendix B: Population and Teacher Sample Size for Oregon's Eight Most Populous Counties; Study Sample by Institution for the Community College and State System Sectors	19
Appendix C: Median Salaries.	20
Appendix D: The 1981-82 Median Salaries for Oregon Teachers by Sector with 1971/72 Median Salaries Adjusted by the Consumer Price Index.	21

Introduction

Teachers are as ready to compare salaries across communities and levels of education as any other type of worker. In recent years, these comparisons--both by teachers and by outside observers--have been occurring with increasing frequency. Collective bargaining for teachers has undoubtedly heightened public interest in their salaries since that process is perceived by many to have gained substantial increases in teacher compensation. Another cause for current interest, particularly in the State of Oregon, is the perception that the financial return to teachers in colleges and universities is not adequate and that many may leave the state's institutions of higher education. Further, questions have been raised about the adequacy of the financial incentives for attracting new scholars to careers in college teaching in Oregon.

Whatever the cause, from a public policy standpoint such comparisons ought to be based on empirical data rather than commonly held opinions or rumor. This study seeks to: (1) provide a partial answer to questions about changes in the relative salaries of teachers in Oregon's publicly supported schools over the last several years, and (2) determine the financial consequences of starting a teaching career at one level of schooling rather than at another.

Methodology

To answer these research questions, we used a longitudinal research design focusing upon beginning teachers in Oregon. Beginning teachers were selected from elementary and secondary schools, community colleges, and the State System of Higher Education and individual careers were followed for a number of years. The school year 1971/72 was selected as a starting date since that is the earliest year the State Department of Education has

complete personnel data for all elementary and secondary teachers in Oregon. Thus the study follows the same people for eleven years, from 1971/72 to 1981/82, inclusive.

This study's cohort of beginning teachers in Oregon public schools, community colleges, and the State System of Higher Education, provides data for a comprehensive view of a beginning teacher's salary experience in each educational sector. To be included within the sample, the teachers had to have remained in the same school district or institution from the beginning of their careers until the end of the 1981/82 school year. The research design of this study provides critical information about the financial consequences for individual teachers pursuing a teaching career in each sector.

The sample was screened for "discipline comparability." Classroom teachers from each sector were included in this study if they taught subjects similar to subjects taught in the other sectors. Persons who taught subjects that were not offered at all levels were excluded. Thus, in the State System of Higher Education, persons were excluded if they taught such subjects as law, medicine, nursing, or architecture. Community college teachers were not included in the study if they taught subjects such as welding, secretarial science, or fire protection. Similarly, elementary and secondary school teachers who taught subjects such as industrial arts, traffic safety, or other specialties were excluded from the study since these teaching assignments were not found in the other two sectors. Administrators, counselors, librarians, and other professional support personnel were also excluded from the study. Appendix A lists disciplines that were included and excluded.

The State Department of Education's data base was used to select

elementary and secondary school teachers who fit the criteria mentioned above. To determine the study sample for the community colleges and the state system, the investigators examined institutional directories, catalogs, and the minutes of institutional governing boards. These sources yielded 475 teachers from the elementary and secondary school sector, 90 from the community colleges, and 60 from the State System of Higher Education. A 20 percent random sample of elementary and secondary school teachers was selected. All appropriate teachers from the community college and state system sectors were included. Appendix B demonstrates that 70 percent of the elementary and secondary teachers in our sample came from the counties in which 70 percent of the population lives.

Data files from the State Department of Education provided necessary information about the teachers in the sample who work in elementary and secondary schools. Similar data bases were not available for the other two sectors. Therefore, it was necessary to contact administrators at each institution to obtain the necessary information, including the date of initial appointment, department, previous full-time teaching experience, educational preparation, percentage of full-time employment, and the budgeted annual rate of pay for each academic year from 1971/72 to 1981/82. After collecting data about each of the individuals selected, further screening ensured that our sample represented the population desired.

First, we examined prior teaching experience. All persons having more than three years of experience prior to the 1971/72 school year were excluded. This helped to ensure that yearly salary increases were due to tenure in the organization and not due to experience in the profession. The minimization of prior experience also prevented "topping out" on the salary schedule, thereby ensuring the fastest possible salary growth for each

teacher in each sector. In addition, persons who had worked less than full-time for three or more of the eleven years of the study were not included. The use of these additional screening criteria reduced the sector samples to 70 elementary and secondary teachers, 62 community college teachers, and 37 teachers from the state system. Complete information was received for each individual in the study. It must be cautioned that although such a refined sample of beginning teachers is appropriate to this study, the results are not generalizable to all Oregon teachers.

This study totals 169 individuals, including elementary and secondary school teachers from 22 of the 36 counties, 12 of the 13 community colleges, and 6 of the 8 institutions within the Oregon State System of Higher Education. Appendix B displays the distribution of the sample by institution for community colleges and the state system.

Teacher workload was not analyzed. The design criteria required that the sample include only full-time teachers. We accepted each institution's definition of what constituted full-time work.

Characteristics of the Sample Related to Salary

Salary schedules in the elementary and secondary and community college sectors are generally based on experience and training. These factors influence not only initial placement on the salary schedule but also advancement on the schedule. Furthermore, increases will occur when the entire salary schedule is adjusted for inflation.

Salary schedules, as such, do not exist in the State System of Higher Education. An individual's initial rank is based on his or her experience and training. Salary increases are based on a variety of factors including consideration of equity, merit, and adjustments for inflation. The

proportion of salary funds allocated to these three categories varies by institution and differs from one year to another. Salary increases usually accompany promotion in rank from assistant to associate professor and from associate to full professor.

To ensure that the classroom teachers included in this study had similar levels of experience, individuals were excluded who had more than three years of teaching experience in 1971/72. Table 1 shows that more than half of the teachers in each sector began teaching in 1971 with no prior teaching experience. Differences among the sectors based on prior experience are minimal.

Table 1: Experience of Teachers Beginning in 1971/72

Years	Elementary Secondary	Community College	State System of Higher Education
0	76%	65%	65%
1	10%	13%	11%
2	4%	13%	14%
3	10%	10%	11%
Total	100%	*101%	*101%
	N=70	N=62	N=37

*Due to Rounding

Those included in the study did differ in 1971/72 in educational preparation, as shown by Table 2. In 1971, 70 percent of the elementary and secondary teachers had not completed any work beyond a bachelor's degree, 84 percent of the community college teachers had completed a master's degree, and 73 percent of the State System of Higher Education sample had completed a doctorate. The proportion of elementary and secondary school teachers who had completed additional hours, including the master's degree increased from

30 percent in 1971 to 91 percent in 1980. During the same period the percentage of community college teachers with a master's degree increased from 84 percent to 89 percent and those with doctorates increased from 3 percent to 5 percent. The proportion of state system teachers with doctorates increased from 73 percent in 1971 to 92 percent in 1981. Also, all but three of the state system teachers in our study received at least one promotion and all were granted tenure.

Table 2: Educational Preparation of Teachers

	Elementary Secondary		Community College		State System of Higher Education	
	1971	1980	1971	1981	1971	1981
Bachelor's	70%	9%	13%	6%	5%	0%
Bachelor's + hours	11%	43%				
Master's	19%	48%	84%	89%	22%	8%
Doctorate	0%	0%	3%	5%	73%	92%
Total	100%	100%	100%	100%	100%	100%
	N=70		N=62		N=37	

Research Findings

As can be seen in Figure 1, the 1971/72 median salary was $7,100 for elementary and secondary teachers, $9,276 for community college teachers, and $11,498 for State System of Higher Education teachers.[1] For purposes of comparison, the U.S. median salary for elementary and secondary school teachers with a bachelor's degree in 1971/72 was $7,005, and the U.S. median salary in 1971/72 for assistant professors in four-year public institutions was $11,705. (Source: National Education Association; Research Report 1971 - R2, "Economic Status of the Teaching Profession 1971/72" and Research Report 1972-5, "Salaries Paid and Salary Related Practices in Higher Education, 1971/72").

In this study, the 1981/82 median salary for elementary and secondary school teachers in Oregon was $20,633, an increase of $13,533 in the median salary over the 11 years. The median salary for Oregon's community college teachers in 1981/82 was $25,295, which represents an increase of $16,019 over the 1971/72 median salary. Teachers in the Oregon State System of Higher Education had a median salary in 1981/82 of $24,368, which is $12,870 more than the 1971/72 median salary.[2] Also, it should be noted that in 1981/82 the employers paid the 6 percent contribution to the Public Employees Retirement System for all state system teachers, all community college teachers and eighty-six percent of elementary and secondary teachers in our study.

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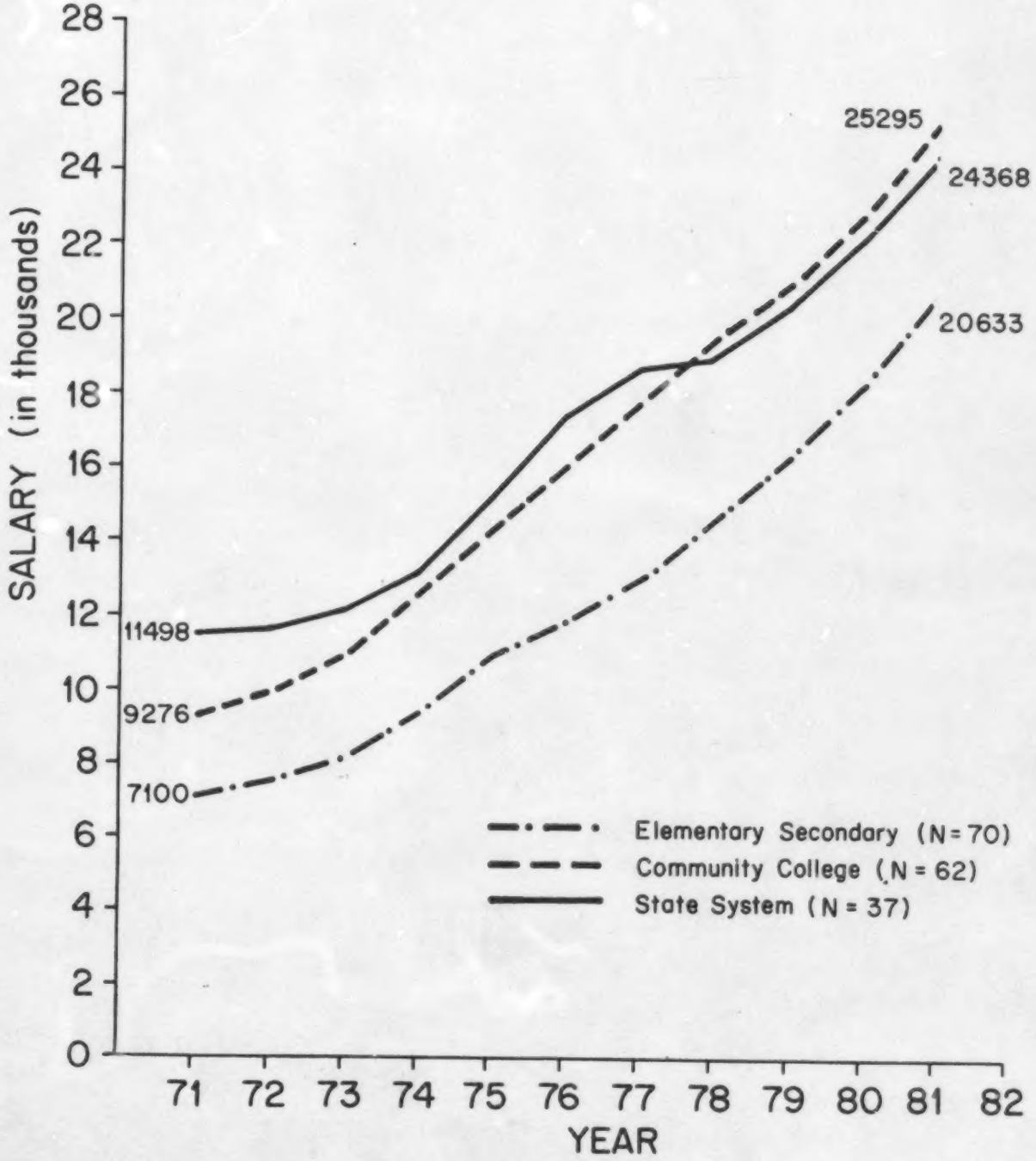
[1]The median divides each sector in half, with 50 percent of the individuals above and 50 percent of the individuals below the reported figure. The median is a useful measure in this circumstance because it is not subject to distortion caused by extremes of maximum and minimum salaries in each sector.

[2]Teachers in each sector receive various fringe benefits in addition to salary. Fringe benefit packages were not examined in detail, but from a brief review it appears that the cost to the employer for these benefits is approximately the same in each educational sector.

Figure 1
Median Salaries of Oregon Teachers
By Sector 1971-72 to 1981-82



This study showed that the median salary for elementary and secondary school teachers was the lowest of the three sectors in 1971/72 and is still the lowest. The median salary of state system teachers in 1971/72 was $2,222 more than the median salary of community college teachers. In 1981/82, the median salary for community college teachers exceeded the median salary of the state system teachers by $927. This reversal began in 1978/79 and has continued for the last four years. Essentially, community college teachers, most with master's degrees, have been paid more each of the last four years than state system teachers with doctorates. Appendix C displays median salaries for each sector by year.

The salaries for teachers in each sector have grown substantially during the 11 years of the study. This salary growth is in part due to increases in inflation. These increases in inflation, as measured by the Consumer Price Index, have made a 1981 dollar worth less than a 1971 dollar. Therefore, an adjustment of salaries to constant 1971 dollars provides a basis for comparison which controls for inflation. The median salaries for each sector shown in Figure 2 reflect changes in salary in real dollars.

The median salary for elementary and secondary and community college teachers increased in constant dollars, and therefore their purchasing power has been increased. The median salary for state system teachers decreased in constant dollars from 1971/72 to 1981/82. Thus, the purchasing power of their median salary has been eroded. These gains and losses in purchasing power, in constant 1971/72 dollars, are shown in Table 3.

Figure 2
Median Salaries for Oregon Teachers by Sector
1971-72 to 1981-82 in Constant 1971 Dollars
CPI July 1971 = 100

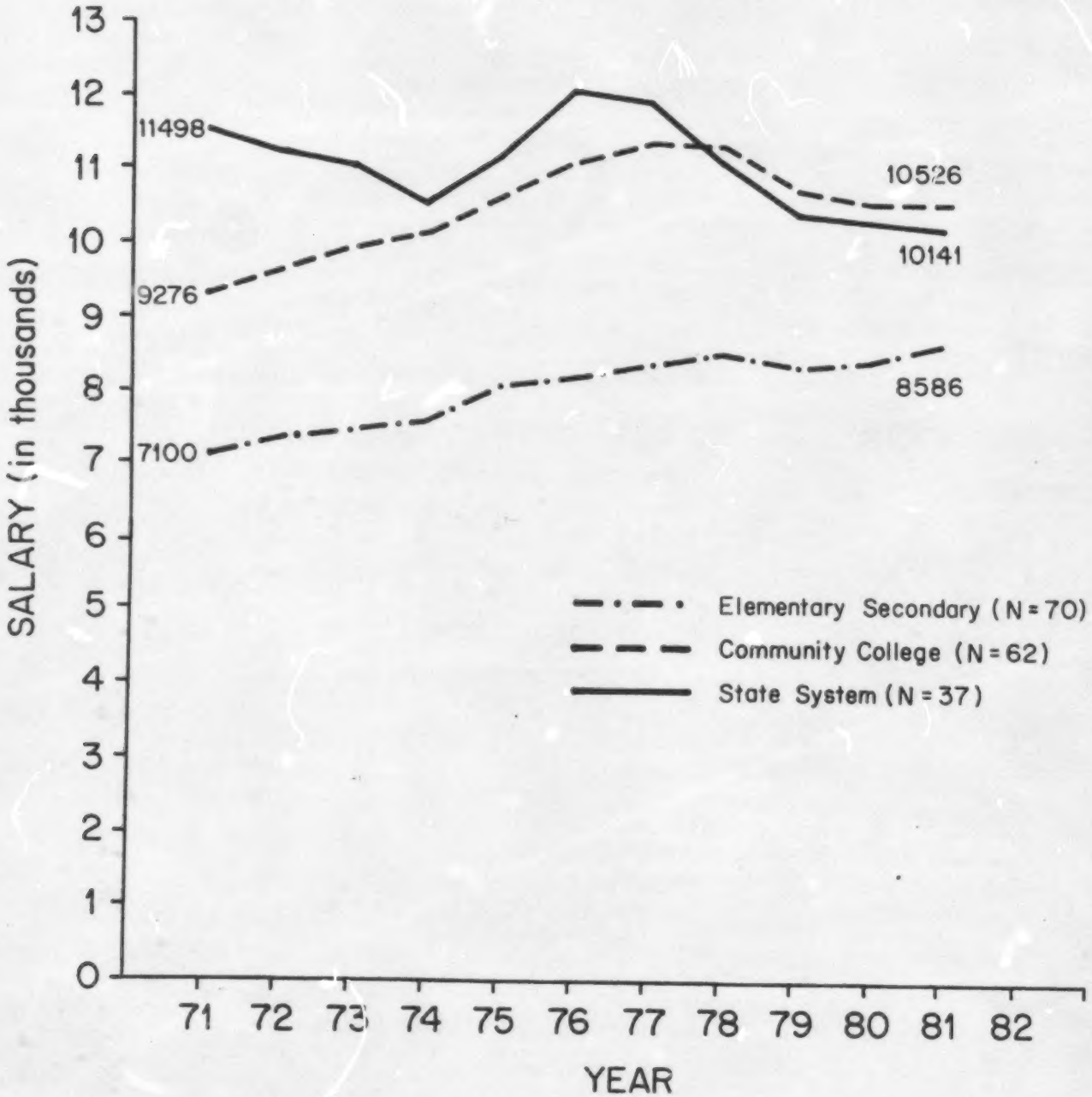


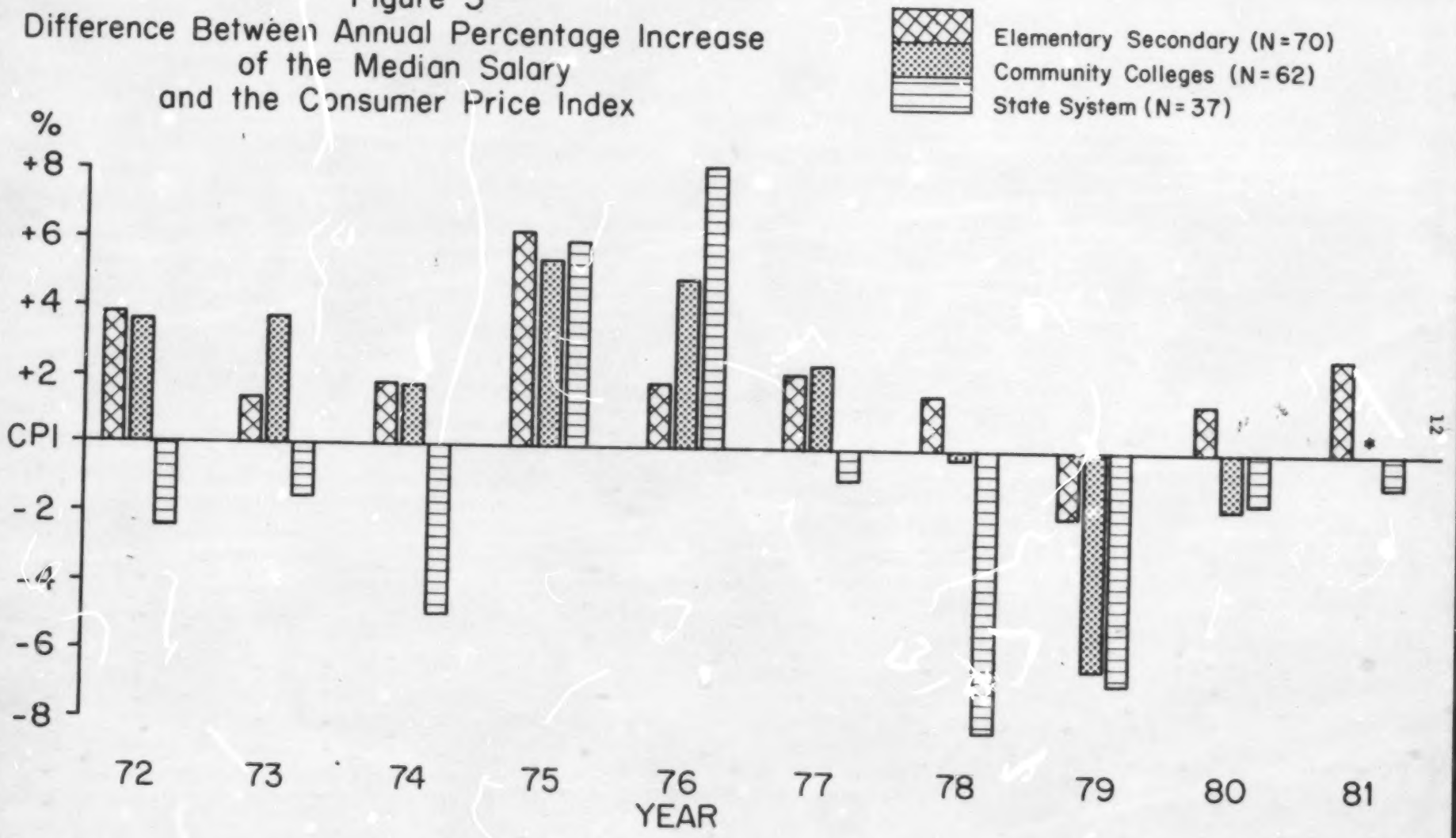
Table 3: Changes in Median Salaries for Oregon Teachers by Sector 1971/72 to 1981/82 in Constant 1971 Dollars

	Elementary Secondary	Community College	State System of Higher Education
1971/72 Median Salary	7100	9276	11498
1981/82 Median Salary	8586	10526	10141
Gain or Loss in Real Income	+1486	+1250	-1357
	N=70	N=62	N=37

The previous figures have shown the salary experience of teachers in each sector who began teaching in 1971/72. Although it is useful to compare salaries using actual dollars, it is also possible to compare salary growth rates. Comparing growth rates makes it possible to see how rapidly salaries are increasing. It is possible to make comparisons of percentage increases among sectors as well as comparing each sector's increases to a common standard, the Consumer Price Index.

The annual percentage increase of the median salary for each sector is compared to the Portland Consumer Price Index in Figure 3. (The Portland Consumer Price Index is generally accepted as representative of the cost of living for the entire state). Median salary increases greater than the CPI are shown as positive differences. Median salary increases smaller than the CPI are shown as negative differences. Since this study follows the same teachers from 1971/72 to 1981/82, only ten annual salary increases are possible. The median salary increase for elementary and secondary teachers was larger than the increase in the CPI for nine of ten years. Similarly, the median salary increase for community college teachers was equal to or larger than the increase in the CPI for seven of the ten years. However,

Figure 3
Difference Between Annual Percentage Increase
of the Median Salary
and the Consumer Price Index



*The community college increase in 1981 was equal to the increase in the CPI

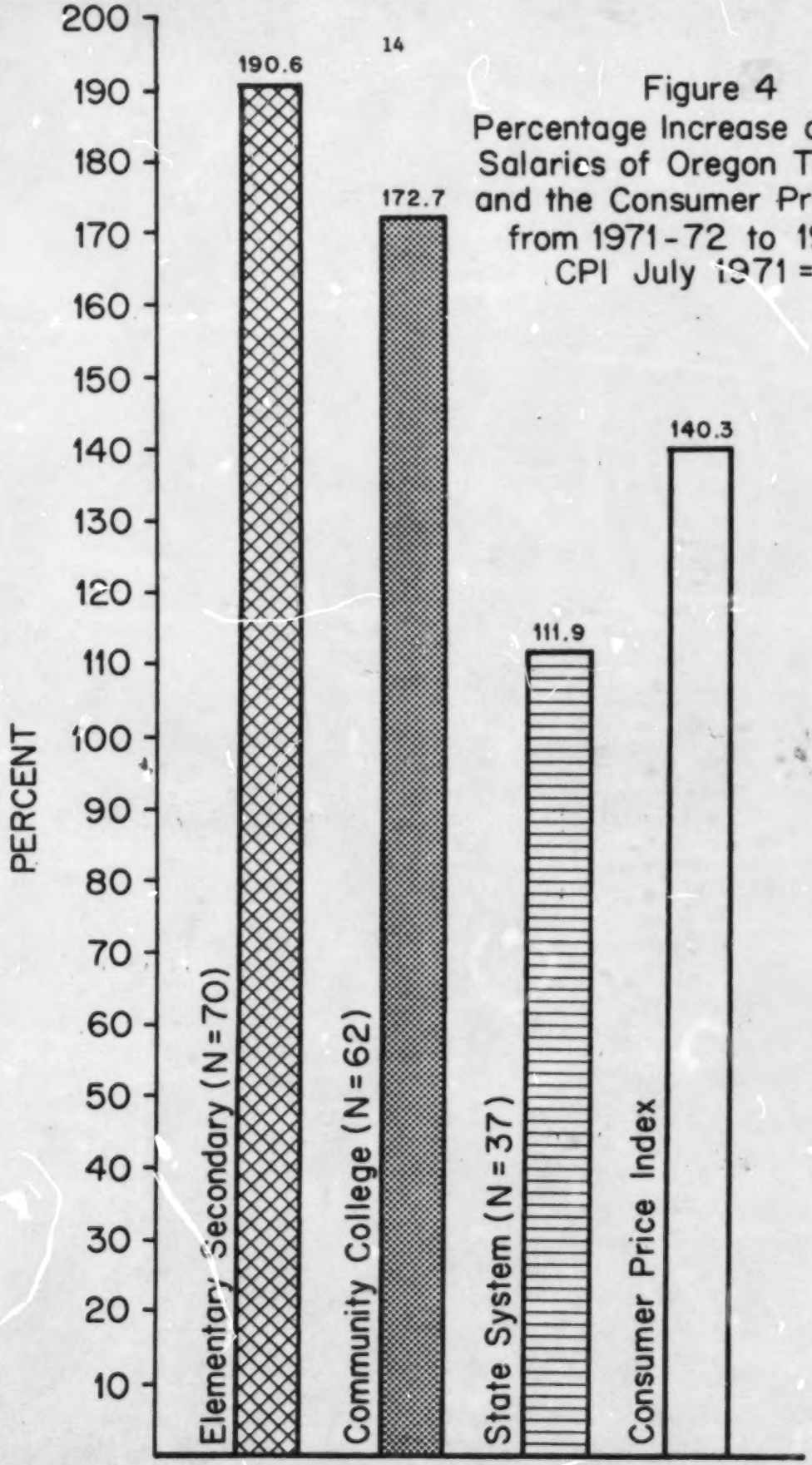
the median salary increase for state system teachers was less than the increase in the CPI for eight of the ten years.

The annual increases in salary for each sector may be totalled to provide a picture of how the teachers in the study have fared. The rate of growth of the median salary of elementary and secondary teachers over the 11 years of the study was more than the growth in either the community college or state system sectors, as illustrated in Figure 4. Also, the rate of growth for elementary and secondary teachers and community college teachers was greater than the growth of the CPI. The median salary for elementary and secondary teachers increased by 190.6 percent while the median salary for community college teachers increased by 172.7 percent. Over the same period of time the median salary of state system teachers increased by 111.9 percent. During the 11 years of the study, the Consumer Price Index of Portland, Oregon, increased by 140.3 percent.

The rate of increase in the median salary for elementary and secondary teachers from 1971/72 to 1981/82 exceeded the increase in the Portland CPI by 36 percent. Similary, the rate of increase in the median salary growth rate for community college teachers from 1971/72 to 1981/82 exceeded the increase in the Portland CPI by 23 percent. However, the rate of increase in the median salary for state system teachers from 1971/72 to 1981/82 was 20 percent below the increase in the Portland CPI.

These differences may also be examined in dollars. The actual median salary for elementary and secondary teachers in 1981/82 was $20,633, which is $3,572 above the amount needed to equal the purchasing power of the 1971/72 median salary. Community college teachers had a median salary in 1981/82 which was $3,005 above the amount needed to maintain the 1971/72 median salary level. State system teachers' median salary in 1981/82 was $3,262

Figure 4
Percentage Increase of Median Salaries of Oregon Teachers and the Consumer Price Index from 1971-72 to 1981-82
CPI July 1971 = 0



lower than the amount needed to equal the purchasing power of the 1971/72 median salary. Appendix D depicts these relationships.

Table 4 shows the percentage of individuals in our study from each sector who experienced salary increases larger than increases in the CPI for the 11 years of the study. From 1971/72 through 1981/82, 99 percent of elementary and secondary teachers in the study experienced salary increases above the CPI and 81 percent of the community college teachers received salary increases greater than the CPI. Only 14 percent of state system teachers had salary increases above the CPI.

Table 4: Salary Change for Individual Teachers by Sector Compared to the Consumer Price Index 1971/72 through 1981/82

	Elementary Secondary	Community College	State System of Higher Education
Above CPI	99%	81%	14%
Below CPI	1%	19%	86%
Total	100%	100%	100%
	N=70	N=62	N=37

Summary

At the outset of this study two questions were asked: (1) What have been the relative salaries of teachers in the elementary and secondary schools, the community colleges, and the State System of Higher Education in the last eleven years, and (2) What are the financial consequences of starting a teaching career at one level of schooling rather than another?

In comparing the relative salaries of teachers in the three sectors, the study revealed that elementary and secondary teachers began their careers at a lower salary level than community college and state system teachers. In turn, beginning community college teachers received lower salaries than beginning state system teachers. These differences seem appropriate given the differing levels of educational training necessary for job entry in each sector.

As was expected, the academic training of teachers in our study differed by educational sector. Generally, elementary and secondary teachers began their careers with bachelor's degrees; at the end of the eleven years of this study approximately one-half had earned master's degrees. Most teachers in the community college sample had earned the master's degree prior to beginning their careers in 1971, and it appears that few had completed additional degrees since that time. In the sample selected from the State System of Higher Education, most teachers had completed doctorates prior to 1971, and all but three teachers had earned this degree by 1981.

During the eleven years of this study, the salaries of elementary and secondary teachers increased by 191 percent, which is a gain of 36 percent above the increase in inflation. Community college teacher salaries increased by 173 percent, representing a gain of 23 percent above the rate of increase in inflation. During the same period of time (1971/72-1981/82)

teachers in our sample from the State System of Higher Education experienced salary gains of 111.9 percent and fell 20 percent behind the increase in inflation. The study shows that despite substantial differences in academic training, community college teachers in our sample have received higher salaries than teachers in the state system since 1978/79.

It was found that 99 percent of our sample of teachers from elementary and secondary schools received salary increases that exceeded the rate of inflation; 81 percent of the teachers from the community college sample also received salary increases greater than the Portland CPI. In the state system, however, only 14 percent received salary increases that exceeded the rate of inflation.

Increases in salaries are often based on the premise that as employees acquire more training and experience they become more valuable to their organizations and should receive more pay. All teachers in our study were with their organizations for eleven years. Many received additional training. If additional experience and training are important considerations for salary determination, then salary gains <u>above the rate of inflation</u> should not be surprising. A substantial majority of elementary, secondary and community college teachers in our study received salary increases above the rate of inflation. A similar statement cannot be made about the salaries of teachers in Oregon's colleges and universities.

APPENDIX A
Disciplines Considered in the Study

Elementary and Secondary	Community College	State System of Higher Education
Self-Contained Classroom	Art	English
Language Arts	Language Arts	Art
Social Studies	Visual Arts	Foreign Language
Science	Mass Media	Drama
Arts and Crafts	English	Linguistics
Music	Humanities	Music
Dramatics	Social Sciences	Sociology
Homemaking	History	Political Science
Mathematics	Mathematics	History
Health Education	Chemistry	Anthropology
Physical Education	Geology	Economics
Foreign Language	General Science	Physics
	Physics	Chemistry
	Home Economics	Microbiology
	Business	Biology
	Computer Science	Biochemistry-Biophysics
	Physical Education	Geology
		Mathematics Education
		Business
		Physical Education

Disciplines Not Considered in the Study Due to Non-Comparability Across Educational Sectors

Elementary and Secondary	Community College	State System of Higher Education
Industrial Arts	Agricultural & Industrial Equipment Technology	Agriculture
Traffic Safety	Air Conditioning & Refrigeration	Engineering
Personal Finance	Automotive Mechanics	Forestry
Career Education	Body & Fender Repair	Health Sciences
Vocational Education	Criminal Justice	Law
Developmental Reading	Diesel Technology	Nursing
Mentally Retarded	Electric-Electronic Technology	Oceanography
Blind or Visually Impaired	Enginnering Technology	Pharmacy
Other Physical Handicapped	Fire Protection Technology	
Emotionally Disturbed	Forest Technology	
Culturally Disturbed	Industrial Technology	
Learning Disabled	Machine Technology	
Audiovisual	Secretarial Training	
Curriculum Development	Welding	
Health Coordinator		

APPENDIX B
Population and Teacher Sample Size for Oregon's Eight Most Populous Counties

County	Population	Teacher Sample Size
Clackamas	240,900	7
Douglas	93,600	5
Jackson	132,700	8
Lane	274,700	8
Linn	88,100	3
Marion	205,800	9
Multnomah	559,000	8
Washington	247,800	1
Totals	1,842,600	49

Note: The population of the eight counties listed above represents 70 percent of Oregon's total population. Concurrently, the teacher sample from these counties represents 70 percent of the study's total sample of elementary and secondary teachers. Thus, 70 percent of the elementary and secondary teachers in our sample come from the counties in which 70 percent of the population lives.

Study Sample by Institution for the Community College and State System Segments

Community Colleges	
Central Oregon	2
Chemeketa	5
Clackamas	10
Clatsop	1
Lane	6
Linn Benton	2
Mt. Hood	10
Portland	13
Roque	3
Southwestern	6
Treasure Valley	1
Umpqua	3
	62

State System	
Eastern Oregon	2
Oregon State	11
Portland State	8
Southern Oregon	3
University of Oregon	10
Western Oregon	3
	37

APPENDIX C
Median Salaries

	Elementary Secondary	Community College	State System of Higher Education
1971-72	7100	9276	11498
1972-73	7576	9877	11550
1973-74	8149	10861	12103
1974-75	9365	12483	13100
1975-76	10821	14329	15087
1976-77	11781	16040	17375
1977-78	12972	17707	18599
1978-79	14498	19476	18970
1979-80	16239	20954	20326
1980-81	18196	22852	22193
1981-82	20633	25295	24368

Appendix D

The 1981-82 Median Salaries for Oregon Teachers by Sector with 1971-72 Median Salaries Adjusted by the Consumer Price Index